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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,614	03/16/2004	Chi-Wang Liang	LIANG12	9680

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EXAMINER

TALBOT, MICHAEL

ART UNIT PAPER NUMBER

3722

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/800,614

Applicant(s)

LIANG ET AL.

Examiner

Michael W. Talbot

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:

Refer to page 1, line 16, the phrase "If there is one ore more" should be changed so as to read --If there is one or more--.

Refer to page 5, line 3, the phrase "the substrate 20 and the rest apertures 25 not covered" should be changed so as to read --the substrate 20 and the rest of the apertures 25 not covered--.

Refer to page 5, line 7, the character reference "adjusting member 25" should be changed so as to read --adjusting member 30--.

Refer to page 5, lines 13 through 14, the phrase "The air has to be sucked from the bottom of the substrate is less than the conventional device" should be changed so as to read --The air to be sucked from the bottom of the substrate is less than the conventional device--.

The entire specification and Abstract should be reviewed to determine if the word "close" should be changed to --closed--.

Appropriate correction is required.

### *Claim Objections*

2. Claim 1 is objected to because of the following informalities:

Refer to page 6, line 7, the word "close" should be changed so as to read --closed--.

Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1,2,5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito '804. Ito '804 shows in Figures 1,3 and 4 a suction device (13) comprising a substrate (1) having an stepped aperture (4,5) construction with a small diameter portion (4), a large diameter portion (5), a first end (top) and a second end (bottom) and an adjusting member (6) received in the large diameter portion of the aperture having a plate-like member and a rim (11) projecting from an outer end (bottom) of the tube and attached to a sidewall of the aperture. Ito '804 shows plate-like member having closed inner (triangle portion) and outer (legs) ends and a gap (12) located between the inner end and rim so as to allow for communication from the first end of the aperture to the second end of the aperture through the gap.

Ito '804 does not disclose expressly that the adjusting member is a tube-shaped member with an open outer end. Instead, Ito '804 indicates that the adjusting member is a plate-like member (col. 2, line 67 through col. 3, line 9). At the time of the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to select "an adjusting member having a tube shape" because Applicant has not disclosed that "an adjusting member having a tube shape" provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected the suction device of Ito '804, and Applicant's suction device to perform equally well with either the "adjusting member being a plate member" as taught by Ito '804 or the claimed "adjusting member having a tube shape" because both constructions would perform the required valve function to control the vacuum force holding the work piece to the surface.

Furthermore, Applicant does not provide any criticality or unexpected results for the "adjusting member having a tube shape" as recited in claim 1.

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5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito '804 in view of Fortune '356. Ito '804 lacks an air guide plate with a plurality of channel sets and airways for communication of vacuum source with second end of aperture.

Fortune '356 shows in Figures 2 and 3 a guide plate (11) having a plurality of channel sets (Fig. 3 and col. 3, lines 11-17) for communication of vacuum source (col. 2, lines 34-40) with second end of aperture (15). In view of this teaching of Fortune '356, it would have been obvious to modify the suction device of Ito '804 to include a guide plate with a plurality of vacuum sections as taught by Fortune '356 for the purpose of increased versatility through controlling the location and amount of vacuum force provided by the suction device to holder various sized objects and because it has been held to be within the general skill of a worker in the art to select a known construction/shape on the basis of its suitability for the intended use as a matter of obvious design choice.

6. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hower et al. '725 in view of Frosch et al. '312. Hower et al. '725 shows in Figures 4,6 and 7 a suction device (13) comprising a substrate (15,17,23) having an aperture (24) which has a first end (21) and a second end (at 17) and an adjusting member (31) received in the aperture having a tube (cylindrical top portion) and a rim (circular bottom portion of greater diameter) projecting from an outer end (bottom) of the tube and attached to a sidewall of the aperture. Hower et al. '725 shows the tube having open inner (top) and outer (bottom) ends and a gap (through hole) located between the inner end and rim so as to allow for communication from the first end of the aperture to the second end of the aperture through the gap. Hower et al. '725 lacks specific construction of the inner end of the tube having a closed end.

Frosch et al. '312 shows in Figures 1-3 and 7 a suction device (12) comprising a substrate (16a-16f) having an aperture and an adjusting member (Fig.7) with a tube (112)

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having a closed inner end, an open outer (bottom) end and a gap (114). In view of this teaching of Frosch et al. '312, it would have been obvious to modify the suction device of Hower et al. '725 to include a tube with a closed end for the purpose of controlling the direction and amount of vacuum force provided by the suction device and because it has been held to be within the general skill of a worker in the art to select a known construction/shape on the basis of its suitability for the intended use as a matter of obvious design choice.

7. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hower et al. '725 in view of Frosch et al. '312, further in view of Fortune '356. Hower et al. '725 in view of Frosch et al. '312 lacks an air guide plate with a plurality of channel sets and airways for communication of vacuum source with second end of aperture.

Fortune '356 shows in Figures 2 and 3 a guide plate (11) having a plurality of channel sets (Fig. 3 and col. 3, lines 11-17) for communication of vacuum source (col. 2, lines 34-40) with second end of aperture (15). In view of this teaching of Fortune '356, it would have been obvious to modify the suction device of Hower et al. '725 in view of Frosch et al. '312 to include a guide plate with a plurality of vacuum sections as taught by Fortune '356 for the purpose of increased versatility through controlling the location and amount of vacuum force provided by the suction device to hold various sized objects and because it has been held to be within the general skill of a worker in the art to select a known construction/shape on the basis of its suitability for the intended use as a matter of obvious design choice.

8. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hower et al. '725 in view of Ito '804. Hower et al. '725 lacks the specific stepped construction of the aperture having an adjusting member received within the larger diameter portion.

Ito '804 shows in Figures 1,3 and 4 a suction device comprising a substrate (1) having a stepped aperture (4,5) construction with a small diameter portion (4) and a large diameter

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portion (5) and an adjusting member (6) received within the large diameter portion. In view of this teaching of Ito '804, it would have been obvious to modify the suction device of Hower et al. '725 to include a stepped aperture construction for the purpose of controlling the direction and amount of force provided by the suction device on the stopper/projection (13) portion and because it has been held to be within the general skill of a worker in the art to select a known construction/shape on the basis of its suitability for the intended use as a matter of obvious design choice.

### ***Conclusion***

9. Any inquiry concerning the content of this communication from the examiner should be directed to Michael W. Talbot, whose telephone number is 571-272-4481. The examiner's office hours are typically 8:30am until 5:00pm, Monday through Friday. The examiner's supervisor, Mrs. Monica S. Carter, may be reached at 571-272-4475.

In order to reduce pendency and avoid potential delays, group 3720 is encouraging FAXing of responses to Office Actions directly into the Group at FAX number 571-273-8300. This practice may be used for filling papers not requiring a fee. It may also be used for filing papers, which require a fee, by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Michael W. Talbot of Art Unit 3722 at the top of your cover sheet.



MWT  
Examiner  
25 May 2006

*Monica S. Carter*  
MONICA CARTER  
SUPERVISORY PATENT EXAMINER